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Titolo	Math for Data Science / / by Omar Hijab
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ISBN	3-031-89707-2
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (588 pages)
Disciplina	519
Soggetti	Mathematics Artificial intelligence - Data processing Applications of Mathematics Data Science Dades massives Matemàtica Aplicacions industrials Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Preface -- List of Figures -- Datasets -- Linear Geometry -- Principal Components -- Calculus -- Probability -- Statistics -- Machine Learning -- A. Auxiliary Material -- B. Auxiliary Files -- References -- Python Index -- Index.
Sommario/riassunto	Math for Data Science presents the mathematical foundations necessary for studying and working in Data Science. The book is suitable for courses in applied mathematics, business analytics, computer science, data science, and engineering. The text covers the portions of linear algebra, calculus, probability, and statistics prerequisite to Data Science. The highlight of the book is the machine learning chapter, where the results of the previous chapters are applied to neural network training and stochastic gradient descent. Also included in this last chapter are advanced topics such as accelerated gradient descent and logistic regression trainability. Clear examples are supported with detailed figures and Python code; Jupyter notebooks and supporting files are available on the author's website. More than 380 exercises and

nine detailed appendices covering background elementary material are provided to aid understanding. The book begins at a gentle pace, by focusing on two-dimensional datasets. As the text progresses, foundational topics are expanded upon, leading to deeper results at a more advanced level.